

WHAT IS CLAIMED IS:

1. A mercury vapor discharge lamp comprising a light-transmissive glass envelope, an electrode disposed within said glass envelope to provide a discharge, a phosphor layer coated adjacent an inner surface of said envelope, a fill gas of mercury and an inert gas sealed inside said envelope, and a rare earth oxide layer substantially uniformly disposed over a surface of said electrode, said oxide layer being formed from an emission mix slurry, said slurry comprising 20-50 wt.% suspension medium and 50-80 wt.% carbonate powder as suspended solids, said suspension medium being selected from the group consisting of (a) organic materials having a vapor pressure of less than 0.1 mm Hg at 20°C, and (b) water.

2. A lamp according to claim 1, said electrode having a secondary coiling, said secondary coiling having a secondary length, said oxide layer being coated on said secondary coiling and having a coating weight of 0.2-0.6 mg/mm along said secondary length, said coating weight being substantially uniform over said secondary coiling along said secondary length.

3. A lamp according to claim 2, said coating weight being about 0.335 mg/mm.

4. A lamp according to claim 2, said electrode further having a tertiary coiling.

5. An emission mix slurry for coating onto a fluorescent lamp electrode, said slurry comprising 20-50 wt.% suspension medium and 50-80 wt.% carbonate powder as suspended solids, said suspension medium being selected from the group consisting of (a) organic

materials having a vapor pressure of less than 0.1 mm Hg at 20°C, and (b) water.

6. A slurry according to claim 5, wherein said suspension medium is an organic suspension medium having a sufficiently high oxygen content such that it is cleanly oxidized to substantially only CO₂ and
5 H₂O_(vap) upon activation of said slurry via application of an electric current.

7. A slurry according to claim 4, wherein said suspension medium is polyethylene glycol 200.

8. A slurry according to claim 5, wherein said suspension medium is deionized water.

9. A slurry according to claim 8, said slurry further comprising at least one additive selected from the group consisting of dispersants, thickeners and binders.

10. A slurry according to claim 5, wherein said suspension medium is selected from the group consisting of polyethylene glycol 300, glycerin and ethylene glycol monomer, and mixtures thereof.

11. A slurry according to claim 5, wherein said carbonate powder comprises a mixture of calcium carbonate, barium carbonate and strontium carbonate.

12. A slurry according to claim 11, said carbonate powder having a mean particle size of 3-20 μm.

13. A slurry according to claim 11, wherein the ratio of calcium carbonate : barium carbonate : strontium carbonate in said carbonate powder is about

50:40:10 or about 50:30:20 by weight.

14. A slurry according to claim 11, said carbonate powder further comprising zirconium carbonate, the ratio of barium carbonate : strontium carbonate : calcium carbonate : zirconium carbonate being
5 59:22.3:15.1:3.6 by weight.

15. A slurry according to claim 6, further comprising less than 5 wt.% zirconia powder.

16. A slurry according to claim 15, said zirconia powder having a mean particle size of 0.001-5 μm .

17. A slurry according to claim 5 further comprising less than 1 wt.% wetting agent.

18. A slurry according to claim 5, wherein 100 grams of said slurry retains at least 95% of its initial specific gravity for at least 24 hours under ambient conditions of 1 atm and 22°C in an open beaker.

19. A slurry according to claim 5, wherein 100 grams of said slurry retains at least 95% of its initial specific gravity for at least 48 hours under ambient conditions of 1 atm and 22°C in an open beaker.

20. A slurry according to claim 5, said suspended solids remaining in suspension for at least 2 hours without requiring mixing to re-suspend settled solids.

21. A slurry according to claim 5, said suspended solids remaining in suspension for at least 24 hours without requiring mixing to re-suspend settled solids.